

CLAIMS:

1. A method of segmenting a selected region from a multi-dimensional dataset, which method comprises the steps of

- setting-up a shape model representing the general outline of the selected region
- setting-up an adaptive mesh representing an approximate contour of the selected region
- 5 – which adaptive mesh is
 - initialized on the basis of the shape model, and
 - deformed in dependence on the shape model and on feature information of the selected region.

10 2. A method of segmenting a selected region as claimed in Claim 1, wherein the shape model is updated upon deformation of the adaptive mesh.

3. A method of segmenting a selected region as claimed in Claim 1, wherein

- one or more local surface patches of the selected region are detected and
- 15 – the mesh is deformed in dependence on the local orientation of the mesh relative to the local surface patch(es).

4. A method of segmenting a selected region as claimed in Claim 3,

- the adaptive mesh including vertices and links connecting individual vertices wherein
- 20 – the mesh is deformed in that individual vertices are moved towards respective surface patches.

5. A method of segmenting a selected region as claimed in Claim 4, wherein individual vertices are moved in dependence on the angle between the local normal to the mesh and the normal to the surface patch.

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6. A method of segmenting a selected region as claimed in Claim 5, wherein individual vertices are moved in the direction normal to the surface patch.

7. A method of segmenting a selected region as claimed in Claim 1, wherein the mesh adaptation is performed on the basis of optimizing a value of an energy function

– the energy function having an internal energy contribution that depends on the shape model, and

5 – an external energy contribution that depends on feature information of the selected region and the actual configuration of the adaptive mesh.

8. A method of segmenting a selected region as claimed in Claim 7, wherein the energy function includes a weighted combination of the internal energy contribution and the external energy contribution, involving adjustable weight factors.

9. A data processor arranged to

– set-up a shape model representing the general outline of the selected region
– set-up an adaptive mesh representing an approximate contour of the selected region
– which adaptive mesh is

– initialized on the basis of the shape model and
– deformed in dependence on the shape model and on feature information of the selected region.

20 10. A computer program including instructions to

– set-up a shape model representing the general outline of the selected region,
– set-up an adaptive mesh representing an approximate contour of the selected region,
– which adaptive mesh is

– initialized on the basis of the shape model, and
25 – deformed in dependence on the shape model and on feature information of the selected region.